Docket No.: 43890-448 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	Customer Number: 20277
Masato HIGASHI	:	Confirmation Number: 3423
Serial No.: 09/673,628	:	Group Art Unit: 2175
Filed: December 08, 2000	:	Examiner: Samuel G. Rimell

For: DISK SYSTEM AND METHOD OF UPDATING FIRMWARE

AMENDMENT

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DRAFT

Sir:

In response to the Office Action dated October 29, 2003, having a three-month shortened statutory period for response set to expire on January 29, 2004, reconsideration of the above-identified application is respectfully requested in view of the following amendment and remarks.

Please deliver to Mr. Samuel G. Rimell

AMENDMENT TO THE CLAIMS

1. (Currently amended) A disk system, comprising:

a computer composed of a plurality of disk devices each having a first memory storing firmware, and

an update program for updating specific information and firmware data of the firmware of said disk devices, wherein said computer operates to compare a parameter of the firmware of one of said plurality of disk devices to a parameter of the firmware of another one of said plurality of disk devices whereby ~~is configured so that~~ firmware of the one of said plurality of disk devices is updated to the firmware of the another one of said plurality of disk devices.

2. (Currently amended) A firmware updating method applied in a disk system comprising a computer composed of a plurality of disk devices each having a first memory storing firmware, and an update program for updating specific information and firmware data of the firmware of said disk devices, comprising:

a starting step of starting said update program;

a ~~storing~~ first transmitting step of ~~storing~~ transmitting firmware from the first memory of one of said disk devices into a second memory coupled to said computer, and;

~~an updating~~ a second transmitting step of transmitting the firmware stored in said second memory to a disk device to be updated out of said disk devices, and updating to the firmware stored in said second memory.

3. (Currently amended) The firmware updating method of claim 2, wherein

each of said specific information is composed of a model name designating type of each of the disk devices, and a revision number showing the version of the firmware, and;

said ~~storing~~ first transmitting step is to ~~store~~ transmit firmware of a disk device having a latest revision number.

4. (Currently amended) The firmware updating method of claim 2, wherein

each of said specific information is composed of a model name designating type of each of the disk devices, and a revision number showing a version of the firmware;

said ~~storing~~ first transmitting step is to ~~store~~ transmit firmware of a disk device having a latest revision number out of the disk devices having same model name of said specific information and different revision numbers, in said memory, and;

said ~~updating~~ second transmitting step is to update a disk device having the same model name as the firmware stored in said second memory and different revision number from the firmware stored in said second memory .

5. (Currently amended) The firmware updating method of claim 2, wherein

each of said specific information is composed of a model name designating type of each of the disk devices, and a revision number showing a version of the firmware;

said ~~storing~~ first transmitting step is to ~~store~~ transmit firmware of a disk device having a latest revision number in a specified revision number range out of the disk devices having same model name of said specific information, and;

said ~~updating~~ second transmitting step is to update a disk device in said specified

revision number range, and having the same model name as the specific information stored in said second memory.

6. (Currently amended) The firmware updating method of claim 2, whercin

each of said specific information is composed of a model name designating type of each of the disk devices, and a revision number showing a version of the firmware;

said ~~storing~~ first transmitting step is to ~~store~~ transmit firmware of the disk device having a latest revision number out of the disk devices having same model name of said specific information and different revision numbers in a specified revision number range , and;

said ~~updating~~ second transmitting step is to update the disk device having the same model name as the firmware stored in said second memory and different revision number in said specified revision number range.

7. (Original) The firmware updating method of any one of claims 2, 3, 4, 5, and 6: wherein said starting step is to start up said update program automatically when the power source of the disk system is turned on.

8. (Currently amended) A disk system, comprising:

a computer composed of a plurality of disk devices each having a first memory storing firmware,

an update program for updating specific information and firmware data of the firmware of said disk devices, and

a second memory for ~~selectively~~ storing a selected firmware of one of said plurality of disk devices, wherein the selected firmware is transmitted to the second memory from the first memory of the one of said plurality of disk devices and thereafter transmitted to another one of said plurality of disk devices.

9. (Canceled)

10. (Currently amended) The disk system of claim 8, wherein said computer operates to compare a parameter of the firmware of the one of said plurality of disk devices to a parameter of the firmware of the another one of said plurality of disk devices ~~is configured to compare a parameter of the firmware of each of said plurality of disk devices~~ so as to determine said selected firmware.

11. (Currently amended) The firmware updating method of claim 2, further comprising a comparing step of comparing a parameter of the firmware of the one of said plurality of disk devices to a parameter of the firmware of the disk device to be updated ~~of each of said plurality of disk devices so as to determine said firmware stored in said second memory~~.

12. (Currently amended) The disk system of claim 1, further comprising a second memory for storing the firmware of the another one of said plurality of disk devices ~~selectively storing said firmware of another one of said plurality of disk devices~~.

13. (Canceled).

REMARKS

Claims 1-8 and 10-13 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bealkowski et al. '075 ("Bealkowski"). This rejection is respectfully traversed for the following reasons.

A. CLAIM 1

In order to expedite prosecution, claim 1 has been amended to include a similar feature as recited in claim 13. Claim 1 as amended recites in pertinent part, "wherein said computer operates to compare a parameter of the firmware of one of said plurality of disk devices to a parameter of the firmware of another one of said plurality of disk devices whereby firmware of the one of said plurality of disk devices is updated to the firmware of the another one of said plurality of disk devices." Turning to Bealkowski, the server 102 merely downloads the updated firmware to the clients 102B without any comparison. Regarding the "compare" feature with respect to claim 13, the Examiner alleges that "[c]ol. 18, lines 49-56 describe a version code ... of one memory bank [that] is compared to the version code of another memory bank ... ." However, Bealkowski does not disclose comparing a parameter of the firmware of disk device 102 to a parameter of the firmware of disk device 102B or vice versa. Instead, Bealkowski expressly discloses that version codes of memory bank and back-up 502, 504 ***within a single disk device*** are compared. Parameters of the firmware among the different disk devices 102, 102B are not compared to each other. Indeed, the comparison in Bealkowski appears to operate only to ensure consistency of the firmware for the primary and back-up memory within a given disk device, whereas the present invention as recited in claim 1 can use the comparison for determining updates among the plurality of disk devices.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the foregoing, it is submitted that Bealkowski does not anticipate claim 1, nor any claim dependent thereon.

B. CLAIM 2

Claim 2 recites in pertinent part, "a first transmitting step of transmitting firmware from the first memory of one of said disk devices into a second memory coupled to said computer, and; a second transmitting step of transmitting the firmware stored in said second memory to a disk device to be updated ... ." Turning to Bealkowski, the only firmware transmission step appears to be from the "server" disk device 102 (using an external update program on diskette having the new firmware) to the "client" disk devices 102B which receive the update from the "server" 102 (*see* col. 10, lines 2-11). Bealkowski does not appear to suggest a second step of transmitting firmware stored in any of the ***client*** disk devices 102B to another disk device. As previously mentioned, Bealkowski updates the firmware of the disk devices using the external update program rather than existing firmware of the various disk devices.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the foregoing, it is submitted that Bealkowski does not anticipate claim 2, nor any claim dependent thereon.

C. CLAIM 8

Claim 8 is submitted to be patentable for reasons generally similar to those discussed above with respect to claim 2. Claim 8 recites in pertinent part, "a second

memory for storing a selected firmware of one of said plurality of disk devices, wherein the selected firmware is transmitted to the second memory from the first memory of the one of said plurality of disk devices and thereafter transmitted to another one of said plurality of disk devices." Turning to Bealkowski, among the disk devices only server 102 appears to transmit firmware updates. Accordingly, none of the memory banks in the disk devices 102, 102B receive firmware from a disk device which is thereafter transmitted to another disk device. As previously mentioned, server 102 receives the firmware from an external diskette, while the clients 102B do not appear to transmit firmware to other disk devices.

As shown in Figure 1 of Applicant's drawings, one exemplary embodiment of the second memory 3 can store firmware from any one of the disk devices 22-26 stored in first memories 32-36, respectively, so as to enable subsequent transfer to another one of the disk devices. The second memory provides one possible means by which to enable temporary storage of firmware of one disk device (e.g., by copy) before being transferred to another disk device.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the foregoing, it is submitted that Bealkowski et al. does not anticipate claim 8, nor any claim dependent thereon.

D. DEPENDENT CLAIMS

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as

claims 1, 2 and 8 are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on all the foregoing, it is respectfully submitted that claims 1-8 and 10-12 are patentable over Bealkowski et al.. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102 be withdrawn.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicant submits that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicant's attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
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